

ABSTRACT

A method for separating and recovering oxygen-rich air from the air, comprising, using a gas separation membrane module where a laminate consisting of a permeate-side spacer for forming a permeate gas channel communicated with a hollow section in a core tube for collecting and discharging a permeate gas and two flat-film gas separation membranes sandwiching the spacer and a feed-side spacer for forming a feed gas channel are spirally wound around the core tube such that the laminate and the feed-side spacer are alternately superimposed, vacuuming the hollow section of the core tube to 95 kPaA (absolute pressure) or less by vacuuming means while feeding the air into the feed gas channel by air feed means such that a maximum feed-air flow rate and a maximum static pressure divided by an effective membrane area of the gas separation membrane are $100 \text{ m}^3/\text{min}\cdot\text{m}^2$ or less and $4000 \text{ Pa}/\text{m}^2$ or less, respectively, to separate and recover oxygen-rich air from the hollow section of the core tube. Oxygen-rich air can be separated and recovered from the air by this method with high separation efficiency.